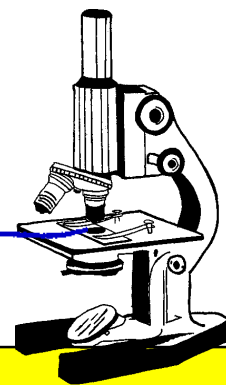


**A CURRENT
EDUCATIONAL
BULLETIN FOR
SUBMITTING LAW
ENFORCEMENT
AGENCIES**

A Closer Examination From The Benchtop...

UNDER^{the}SCOPE



MISSOURI STATE HIGHWAY PATROL • CRIME LABORATORY DIVISION

PHONE: 573-526-6134
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IN OBSERVANCE OF
TRUMAN'S BIRTHDAY,
THE LAB WILL BE CLOSED
**TUESDAY,
MAY 8, 2001**

LAB NUMBERS
WHEN CALLING ANY OF THE
MSHP LABS, HAVE YOUR
CASE LAB NUMBER
AVAILABLE SO WE CAN
QUICKLY & EFFICIENTLY
ANSWER ANY QUESTIONS.

**SYRINGE &
SHARPS SUBMISSION**
FOR YOUR SAFETY AND
OURS, AVOID SUBMITTING
SYRINGES EXCEPT WHEN
ABSOLUTELY NECESSARY.
WHEN SUBMITTING
SYRINGES & OTHER SHARPS,
ALWAYS PLACE THEM IN
PROPER "SYRINGE SAFE" OR
"SHARPS SAFE" CONTAINERS
WITH THE PACKAGING
CLEARLY LABELED AS TO THE
CONTENTS.



**MAY, 2001
VOLUME 1 • ISSUE 1**

Lab Implements New Requirements For Ethyl Alcohol Testing

It is the goal of the Missouri State Highway Patrol Crime Laboratory to provide your agency with the highest quality forensic science service. In keeping with that goal, the lab has implemented two new ethyl alcohol (ethanol) testing policies to ensure that your agency will continue to receive the most accurate and pertinent test results available.

**Policy Change 1: Effective June 1, 2001,
the lab will only perform ethyl alcohol testing
on blood submitted in tubes containing
sodium fluoride.**

Improperly preserved blood samples have always been a concern in blood alcohol analysis. Research indicates the unreliability of alcohol testing on improperly preserved samples. Based on this information and interlaboratory discussion, the Missouri State Highway Patrol Crime Laboratory is revising its ethyl alcohol protocol to require blood samples that are submitted for alcohol testing be preserved with sodium fluoride.

Sodium fluoride is universally accepted as the only preservative that can ensure ethanol is neither produced nor consumed in the blood sample by preventing the growth of microorganisms, specifically bacteria and yeast. Some microorganisms have the potential to consume alcohol as a food source, thereby decreasing the true alcohol content in an improperly preserved sample. On the other hand, microorganisms in blood tubes without the sodium fluoride preservative may undergo fermentation, and additional alcohol can form in the sample. Either case results in an inaccurate test result.

Most agencies are presently using sodium fluoride commonly found in the gray stoppered blood tubes. The manufacturer places this preservative in the tube, and its presence is usually indicated by a gray colored stopper. Do

not assume a tube contains sodium fluoride just because it has a gray colored stopper. Rather, check the labeling on the tube to be sure the words **sodium fluoride** or the chemical abbreviation **NaF** appears.

Even though the vast majority of samples the crime lab processes contain the proper additive, a few still do not. There is a general agreement among laboratories that any blood alcohol results are of questionable reliability for blood samples without sodium fluoride.

**Policy Change 2: Effective June 1, 2001,
the lab will no longer perform ethyl alcohol
testing on urine samples.**

Urine is not a reliable source for the determination of blood alcohol content. Once urine collects in the urinary bladder, the alcohol content does not remain in equilibrium with the alcohol content of blood. The alcohol content of urine cannot rise and fall the way the alcohol content of blood can. Because of the difference in water content between blood and urine, urine contains higher levels of alcohol. This difference is quite variable, and a conversion is generally not reliable. Ultimately, urine is often not collected in a vial containing sodium fluoride, so the aforementioned problems for preservation of the blood alcohol also apply to urine.

The lab does not wish to inconvenience any submitting agency with the implementation of these new policies. We have determined that these changes would have affected very few cases in the past. With your prompt attention, none of your future cases should be impacted. If you should have any questions or concerns on how to change your procedures to comply with our new policies, please call 573-526-6134, and ask for Bill Marbaker or Martin Lindenbusch.